

Title (en)

SEMICONDUCTOR LASER DEVICE

Title (de)

HALBLEITERLASERVORRICHTUNG

Title (fr)

DISPOSITIF LASER A SEMI-CONDUCTEUR

Publication

**EP 1033793 A4 20010418 (EN)**

Application

**EP 99929803 A 19990713**

Priority

- JP 9903765 W 19990713
- JP 19845798 A 19980714

Abstract (en)

[origin: EP1033793A1] A semiconductor laser device (100) comprises a first semiconductor laser element (31) and a second semiconductor laser element (32) of different wavelengths, which are mounted on a heat sink block (2) directly or on a sub-mount provided on the heat sink block. The optical axes (A, B) of the semiconductor laser elements are substantially parallel to each other. The first and second semiconductor laser elements (31, 32) are mounted on the heat sink block (2) in such a manner that  $0 \leq L \leq d_1 + d_2 \leq 160 \text{ mm}$  is satisfied, where  $d_1$  is the distance between the optical axis (A) of the first semiconductor laser element (31) and the center axis (O) of a condenser lens (71) arranged in front of the semiconductor laser device (i.e., faced with the emission surfaces of the semiconductor laser elements),  $d_2$  is the distance between the optical axis (B) of the second semiconductor laser element (32) and the center axis of the condenser lens, and  $L$  is the distance between the optical axes of the first and second semiconductor laser elements. <IMAGE>

IPC 1-7

**H01S 1/00; H01S 5/40; G11B 7/125**

IPC 8 full level

**G11B 7/125** (2006.01); **H01S 5/40** (2006.01); **G11B 7/00** (2006.01); **H01S 5/02** (2006.01)

CPC (source: EP KR US)

**G02B 27/141** (2013.01 - KR); **G11B 7/127** (2013.01 - EP KR US); **H01S 5/02469** (2013.01 - KR); **H01S 5/4025** (2013.01 - EP KR US);  
**G11B 2007/0006** (2013.01 - EP KR US); **H01L 2224/45144** (2013.01 - EP KR US); **H01L 2224/48091** (2013.01 - EP KR US);  
**H01L 2224/48465** (2013.01 - EP KR US); **H01S 5/02** (2013.01 - EP US); **H01S 5/4087** (2013.01 - EP KR US)

Citation (search report)

- [XY] EP 0838813 A2 19980429 - SAMSUNG ELECTRONICS CO LTD [KR]
- [A] US 4517667 A 19850514 - SPRAGUE ROBERT A [US]
- [X] PATENT ABSTRACTS OF JAPAN vol. 1997, no. 09 30 September 1997 (1997-09-30)
- [X] PATENT ABSTRACTS OF JAPAN vol. 016, no. 204 (E - 1202) 15 May 1992 (1992-05-15) & US 5157682 A 19921020 - SHIMADA NAOHIRO [JP]
- [Y] PATENT ABSTRACTS OF JAPAN vol. 1998, no. 06 30 April 1998 (1998-04-30)
- [Y] PATENT ABSTRACTS OF JAPAN vol. 014, no. 414 (E - 0975) 7 September 1990 (1990-09-07)
- [Y] PATENT ABSTRACTS OF JAPAN vol. 013, no. 129 (P - 849) 30 March 1989 (1989-03-30) & US 4860276 A 19890822 - UKITA HIROO [JP], et al
- [Y] TAKAMORI A: "SEMICONDUCTOR LASER DIODE PROVIDES TWO-BEAM OUTPUT FOR OPTICAL DISKS", JEE JOURNAL OF ELECTRONIC ENGINEERING,JP,DEMPA PUBLICATIONS INC. TOKYO, vol. 31, no. 328, 1 April 1994 (1994-04-01), pages 70 - 72,79, XP000443195, ISSN: 0385-4507
- See references of WO 0004614A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

**EP 1033793 A1 20000906; EP 1033793 A4 20010418; EP 1033793 B1 20040929**; CN 1118911 C 20030820; CN 1273703 A 20001115;  
DE 69920653 D1 20041104; DE 69920653 T2 20051013; KR 100333027 B1 20020415; KR 20010023938 A 20010326;  
US 6456635 B1 20020924; WO 0004614 A1 20000127

DOCDB simple family (application)

**EP 99929803 A 19990713**; CN 99801112 A 19990713; DE 69920653 T 19990713; JP 9903765 W 19990713; KR 20007002638 A 20000313;  
US 50863000 A 20000314